

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) An RF circuit comprising:
a voltage controlled oscillator ~~delivering to deliver~~ an RF signal ;
a phase locked loop to control the voltage controlled oscillator;
a modulation circuit ~~receiving to receive~~ the RF signal and ~~delivering to deliver~~ a modulated signal ~~comprising having~~ at least one harmonic component of a frequency equal or proximate to that of the RF signal delivered by the voltage controlled oscillator, the harmonic component being capable of disturbing the operation of the voltage controlled oscillator by injection pulling;
an injection pulling compensation circuit, ~~comprising having one~~ input ~~receiving to receive~~ at least the disturbing harmonic component and means for modifying ~~the a~~ phase and ~~the an~~ amplitude of the harmonic component to deliver an injection pulling compensation signal;
and
means for injecting the compensation signal into the voltage controlled oscillator.
2. (Currently Amended) The RF circuit according to claim 1 wherein the compensation circuit is amplitude and phase ~~adjusted-adjustable~~ such that the compensation signal injected into the voltage controlled oscillator has an amplitude substantially equal to ~~the an~~ amplitude of a spurious signal resulting from ~~the involuntary~~ injection into the voltage controlled oscillator, by at least one spurious path, of the disturbing harmonic component, and a phase opposite that of the spurious signal.

3. (Previously Presented) The RF circuit according to claim 1 wherein the compensation circuit is a single ended circuit that delivers a compensation signal having a unique component that is injected at one point of the voltage controlled oscillator.

4. (Previously Presented) The RF circuit according to claim 1 wherein the compensation circuit is a single ended circuit that delivers a compensation signal having two components that are injected at two different points of the voltage controlled oscillator.

5. (Previously Presented) The RF circuit according to claim 1 wherein the compensation circuit is a balanced circuit that delivers a compensation signal having two components in opposite phase that are injected at two different points of the voltage controlled oscillator.

6. (Currently Amended) The RF circuit according to claim 1 wherein the compensation circuit receives at input a harmonic component taken off ~~in~~ the modulation circuit.

7. (Currently Amended) The RF circuit according to claim 6 wherein the compensation circuit receives at input a harmonic component taken off ~~in~~ an output amplifier of the modulation circuit.

8. (Previously Presented) The RF circuit according to claim 1 wherein the compensation circuit receives at input a harmonic component delivered by a harmonic generating circuit distinct from the modulation circuit.

9. (Previously Presented) The RF circuit according to claim 1 wherein the compensation circuit comprises a phase-shift circuit to modify the phase of the harmonic component received at input.

10. (Currently Amended) The RF circuit according to claim 1 wherein the compensation circuit comprises a phase-shift circuit ~~receiving to receive~~ the disturbing harmonic component and ~~delivering to deliver~~ two phase quadrature signals.

11. (Currently Amended) The RF circuit according to claim 1 wherein the compensation circuit comprises a phase-shift circuit ~~receiving to receive~~ the disturbing harmonic component and ~~delivering to deliver~~ phase quadrature and opposite phase signals.

12. (Currently Amended) The RF circuit according to claim 11 wherein the phase-shift circuit comprises a balanced bridge of resistors and capacitors that is ~~quite~~ insensitive to the temperature.

13. (Previously Presented) The RF circuit according to claim 1 wherein the compensation circuit comprises at least one attenuator circuit to modify the amplitude of the harmonic component received at input.

14. (Previously Presented) The RF circuit according to claim 13 wherein the attenuator circuit comprises adjustable resistors or capacitors or a combination of these elements.

15. (Currently Amended) The RF circuit according to claim 13, ~~comprising wherein said at least one attenuator circuit includes~~ a group of at least two attenuator circuits ~~the having outputs of which that~~ are added up to control ~~the a~~ phase and ~~the an~~ amplitude of the compensation signal.

16. (Currently Amended) The RF circuit according to claim 15, ~~comprising wherein said at least one attenuator circuit includes~~ a group of attenuator circuits having their outputs ~~that are added up and receiving that receive~~ at input phase quadrature signals coming from the disturbing harmonic component.

17. (Currently Amended) The RF circuit according to claim 15, ~~comprising wherein said at least one attenuator circuit includes a group of attenuator circuits having their outputs that are added up and receiving that receive~~ at input phase quadrature and opposite phase signals coming from the disturbing harmonic component.

18. (Currently Amended) The RF circuit according to claim 15 wherein ~~an said at least one~~ attenuator circuit comprises electrically adjustable capacitors or electrically adjustable resistors, which are adjusted by analog signals delivered by a digital to analog converter.

19. (Currently Amended) The RF circuit according to claim 18 wherein ~~digital data for adjusting to adjust~~ the capacitors of the attenuator circuit are stored in memory cells and are applied to the digital to analog converter.

20. (Previously Presented) The RF circuit according to claim 1 wherein the compensation signal is injected onto one terminal of an active component of the voltage controlled oscillator.

21. (Previously Presented) The RF circuit according to claim 1 wherein the compensation signal is injected onto one terminal of a passive component of the voltage controlled oscillator.

22. (Previously Presented) The RF circuit according to claim 1 wherein the means for injecting the compensation signal comprise an injection inductor coupled to an inductor of the voltage controlled oscillator.

23. (Currently Amended) A method for ~~stabilising the operation~~ stabilizing operation of a voltage controlled oscillator that sends an RF signal and is driven by a phase locked loop, the method comprising:

receiving through at least one spurious path a harmonic component of a frequency equal or proximate to that of the RF signal sent, said harmonic component being capable of disturbing the operation of the voltage controlled oscillator by injection pulling; and

~~injection~~injecting, into a core of the voltage controlled oscillator, an injection pulling compensation signal, a frequency of which is within a bandwidth of the voltage controlled oscillator and the a phase and the an amplitude of which are adjusted-adjustable so as to ~~neutralise~~neutralize the disturbing effects of the harmonic component.

24. (Currently Amended) The method according to claim 23 wherein the compensation signal is amplitude and phase adjusted so as to have ~~an-said~~ amplitude substantially equal to ~~the-an~~ amplitude of a spurious signal resulting from the involuntary injection into the voltage controlled oscillator, by at least one spurious path, of the disturbing harmonic component, and ~~a-said~~ phase opposite that of the spurious signal.

25. (Currently Amended) The method according to claim 23, ~~comprising the~~ wherein said injecting the compensation signal includes a single ended injection, at one point of the voltage controlled oscillator, of ~~a-said~~ compensation signal having a unique component.

26. (Currently Amended) The method according to claim 23, ~~comprising the~~ wherein said injecting the compensation signal includes an injection of ~~a-said~~ compensation signal having two components, and includes a ~~the~~ single ended injection of these components at two different points of the voltage controlled oscillator.

27. (Currently Amended) The method according to claim 23, ~~comprising the~~ wherein said injecting the compensation signal includes an injection of ~~a-said~~ compensation signal having two components in opposite phase, and includes an ~~the~~ injection of these two components at two different points of the voltage controlled oscillator.

28. (Currently Amended) The method according to claim 23 wherein the compensation signal is generated from at least one harmonic component taken off ~~in the a~~ modulation circuit.

29. (Currently Amended) The method according to claim 28 wherein the compensation signal is generated from at least one harmonic component taken off in an amplifier of a said modulation circuit, from which the disturbing harmonic component is sent.

30. (Previously Presented) The method according to claim 23 wherein the compensation signal is generated from one harmonic component produced by a harmonic generating circuit.

31. (Currently Amended) The method according to claim 23 wherein the phase of the compensation signal is adjusted by ~~means of a~~ phase-shift circuit.

32. (Currently Amended) The method according to claim 31 wherein the amplitude of the compensation signal is adjusted by ~~means of an attenuator circuit comprising~~ having adjustable resistors or capacitors or a combination of these elements.

33. (Currently Amended) The method according to claim 23 wherein the amplitude and the phase of the compensation signal are adjusted by ~~means of a~~ group of at least two attenuator circuits ~~the having outputs of which that~~ are added up.

34. (Currently Amended) The method according to claim 33 wherein the amplitude and the phase of the compensation signal are adjusted by ~~means of a said~~ group of attenuator circuits having their outputs added up and receiving at input phase quadrature signals coming from the disturbing harmonic component.

35. (Currently Amended) The method according to claim 33 wherein the amplitude and the phase of the compensation signal are adjusted by ~~means of a said~~ group of attenuator circuits having their outputs added up and receiving at input phase quadrature and opposite phase signals coming from the disturbing harmonic component.

36. (Currently Amended) The method according to claim 35 wherein the phase quadrature and opposite phase signals are generated by ~~means of a~~ phase-shift circuit ~~comprising having a~~ balanced bridge of resistors and capacitors that is ~~quite insensitive to the~~ temperature.

37. (Currently Amended) The method according to claim 33 wherein ~~an said~~ at least two attenuator circuits includes an attenuator circuit comprises having electrically adjustable capacitors or electrically adjustable resistors that are adjusted by analog signals coming from adjustment digital data.

38. (Previously Presented) The method according to claim 37 wherein the adjustment digital data are stored in memory cells.

39. (Previously Presented) The method according to claim 23 wherein the compensation signal is injected onto one terminal of an active component of the voltage controlled oscillator.

40. (Previously Presented) The method according to claim 23 wherein the compensation signal is injected onto one terminal of a passive component of the voltage controlled oscillator.

41. (Previously Presented) The method according to claim 23 wherein the compensation signal is injected by inductive coupling.

42. (New) A method for stabilizing operation of a voltage controlled oscillator that sends an RF signal and is driven by a phase locked loop, the method comprising:

receiving through at least one spurious path a harmonic component of a frequency equal or proximate to that of the RF signal sent, said harmonic component being capable of disturbing the operation of the voltage controlled oscillator by injection pulling; and

injecting, into the voltage controlled oscillator, an injection pulling compensation signal having a phase and an amplitude that are adjustable so as to neutralize disturbing effects of the harmonic component,

wherein said injecting the compensation signal includes injecting said compensation signal having two components at two different points of the voltage controlled oscillator.

43. (New) The method of claim 42 wherein said injecting is a single ended injection.

44. (New) The method of claim 42 wherein said injecting the compensation signal having two components includes injecting the compensation signal having the two components in opposite phase, at two different points of the voltage controlled oscillator.

45. (New) A method for stabilizing operation of a voltage controlled oscillator that sends an RF signal and is driven by a phase locked loop, the method comprising:

receiving through at least one spurious path a harmonic component of a frequency equal or proximate to that of the RF signal sent, said harmonic component being capable of disturbing the operation of the voltage controlled oscillator by injection pulling;

injecting, into the voltage controlled oscillator, an injection pulling compensation signal having a phase and an amplitude that are adjustable so as to neutralize disturbing effects of the harmonic component; and

adjusting said phase of the compensation signal using a phase-shift circuit.

46. (New) The method of claim 45, further comprising generating the compensation signal from one harmonic component produced by a harmonic generating circuit.

47. (New) The method of claim 45 wherein said injecting the compensation signal includes injecting the compensation signal onto one terminal of an active component of the voltage controlled oscillator.